

**Annex to Form PCT/ISA/206
COMMUNICATION RELATING TO THE RESULTS
OF THE PARTIAL INTERNATIONAL SEARCH**

International Application No.
PCT/US2004/000626

1. The present communication is an Annex to the invitation to pay additional fees (Form PCT/ISA/206). It shows the results of the international search established on the parts of the international application which relate to the invention first mentioned in claims Nos.:

1-51, 54-57, 61, 62
2. This communication is not the international search report which will be established according to Article 18 and Rule 43.

3. If the applicant does not pay any additional search fees, the information appearing in this communication will be considered as the result of the international search and will be included as such in the international search report.

4. If the applicant pays additional fees, the international search report will contain both the information appearing in this communication and the results of the international search on other parts of the international application for which such fees will have been paid.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 323 655 A (EAGAN JOHN T ET AL) 28 June 1994 (1994-06-28) column 4, line 58-67 column 5, line 9 -column 10, line 65; figures 1-13	26-31, 37-43, 54-57, 61,62
X	US 5 939 642 A (EAGAN JR JOHN T ET AL) 17 August 1999 (1999-08-17) column 3, line 59 -column 6, line 34; figures 1-8	26-31, 37-43, 54-57, 61,62
X	US 5 817 946 A (BROVOLD THOMAS EMIL) 6 October 1998 (1998-10-06) column 6, line 50 -column 11, line 39; figure 2	26-31, 37-43, 54-57, 61,62
X	US 5 606 133 A (PYLE ROGER A ET AL) 25 February 1997 (1997-02-25) column 4, line 42 -column 7, line 45; figure 2	54-57
A	US 3 461 717 A (DUNLAP WAYNE A ET AL) 19 August 1969 (1969-08-19) column 3, line 64-67; figures 1-5	1,15

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another claim or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle of theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

z document member of the same patent family

Form PCT/ISA/206 (Annex, (last revised) July 1992; reprint January 2004)

INVITATION TO PAY ADDITIONAL FEES

International application No.

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This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-51, 54-57, 61, 62

1.1 Subinvention 1: Claims 1-47, 54-57, 61 and 62

Gyratory compactor apparatus comprising an offsetable member and an engaging member.

1.2 2 Subinvention 2: Claims 48-51

Pressure measuring device.

2. Claims: 52, 53

device adapted to determine and maintain an angle of gyration

3. Claims: 58-60

cleaning device to remove sample residue

The present application contain 3 groups of claims corresponding to 3 different inventions:

Please note that all inventions mentioned under item 1, although not linked by a common inventive concept, could be searched without effort justifying an additional fee.

The reasons for which the present application has been deemed to contain 3 inventions which are not linked such that they form a single general inventive concept, as required by Rules 13.1, 13.2 and 13.3, PCT are as follows:

The prior art which has been identified as D1, discloses:
a gyratory compactor apparatus adapted to interact with a cylindrical mold having opposed first and second end, said gyratory compactor apparatus comprising: a frame defining an axis, a mold engaging device and an offsetable member engaged with the frame and configured to be capable of engaging the second end of the mold, the offsetable member being further configured to be capable of being displaced from the frame axis and concurrently movable in an orbital motion about the frame axis, with a portion of the mold away from the second end being maintained at a gyration point along the frame axis, such that the second end of the mold is moved in the orbital motion and the mold is thereby gyrated and capable of being dynamically maintained
at a gyration angle related to the displacement of the offsetable member, the gyration point, and the frame axis.

Invention I:

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From a comparison of the disclosure of this prior art D1 and the technical features of claims 1-51, 54-57, 61 and 62 the features which are known from D1 are the following:

A gyratory compactor apparatus adapted to interact with a cylindrical mold having opposed first and second end, said gyratory compactor apparatus comprising: a frame defining an axis, a mold engaging device and an offsetable member engaged with the frame and configured to be capable of engaging the second end of the mold, the offsetable member being further configured to be capable of being displaced from the frame axis and concurrently movable in an orbital motion about the frame axis, with a portion of the mold away from the second end being maintained at a gyration point along the frame axis, such that the second end of the mold is moved in the orbital motion and the mold is thereby gyrated and capable of being dynamically maintained at a gyration angle related to the displacement of the offsetable member, the gyration point, and the frame axis.

from which analysis follows that the following technical features of claims 1-51, 54-57, 61 and 62 can be seen to make a contribution over this prior art (Special Technical Features (STF), (Rule 13.2 PCT)): as being that the mold-engaging device is adapted to axially move the mold with respect to the frame and that the mold engaging device is further configured to then release the mold such that the mold is independent thereof and engaged with the offsetable member. From these STF the objective problem to be solved by the 1st invention can be construed as: to automatically engage the mold into the offsetable member.

Subinvention 1.1:

Subinvention 1.1 relates to a different subject-matter (related to a pressure sensor device) but is not novel over the disclosure of D1.

Invention II:

From a comparison of the disclosure of this prior art and the technical features of claims 52 and 53, the following features can be seen to make a contribution over this prior art (Special Technical Features (STF), (Rule 13.2PCT)):

a sensor device to dynamically determine an actual angle of gyration of the mold and a controller engaged with the offsetable member to provide a desired angle of gyration in communication with the sensor device. From these, the objective problem to be solved can be construed as: to determine and maintain accurately and dynamically an angle of gyration.

Invention III:

From a comparison of the disclosure of this prior art and the technical features of claims 58-60, the following features can be seen to make a contribution over this prior art (Special Technical Features (STF), (Rule 13.2 PCT)): a cleaning device.

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From these, the objective problem to be solved can be construed as:
to clean the sample that is falling from a gyratory compactor apparatus.

These groups are therefore not linked by a single technical problem and
therefore a lack of unity appears in the application under the
requirements of Rule 13 PCT.

1 Invention:

Patent Family Annex

Information on patent family members

International Application No

PCT/US2004/000626

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5323655	A	28-06-1994	AT 148785 T	15-02-1997
			AU 673604 B2	14-11-1996
			AU 6664294 A	21-11-1994
			CA 2158735 A1	10-11-1994
			DE 69401710 D1	20-03-1997
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			EP 0695419 A1	07-02-1996
			FI 954970 A	18-10-1995
			JP 2721273 B2	04-03-1998
			JP 8508822 T	17-09-1996
			WO 9425845 A1	10-11-1994
US 5939642	A	17-08-1999	AU 740544 B2	08-11-2001
			AU 2137399 A	07-10-1999
US 5817946	A	06-10-1998	WO 9821558 A2	22-05-1998
			US 6026692 A	22-02-2000
US 5606133	A	25-02-1997	NONE	
US 3461717	A	19-08-1969	NONE	

Form PCT/ISA/226 (original family annex) (July 1992; revised January 2004)